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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,717	09/17/2001	Kenneth Noddings	P051	7607

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EXAMINER

LAZOR, MICHELLE A

ART UNIT PAPER NUMBER

1734

DATE MAILED: 01/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/954,717	Applicant(s) NODDINGS ET AL.	
	Examiner Michelle A Lazor	Art Unit 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-16,19-23,25,27-33,38 and 42-60 is/are pending in the application.
- 4a) Of the above claim(s) 14-16,25,27-33 and 42-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-13,19-23,38 and 45-60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 56 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear if there are two molds being referred to in the claim. For the purpose of examination, it has been assumed there is only one mold.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 38, and 55 are rejected under 35 U.S.C. 102(b) as being anticipated by Curtis (U.S. Patent No. 4173389).

Regarding Claims 1, 2, and 55, Curtis discloses a method of forming an assembly of optical components, comprising providing a mold; positioning a first component, such as a single mode optical fiber or equivalent, in the mold; positioning a second component, such as an LED or laser, in the mold; and applying a formable material into the mold or tool to form a waveguide between the first and second components, the waveguide forming an optical path between the first component and the second component (column 1, lines 6 – 9; column 4, lines 6 – 26;

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column 5, lines 27 – 51; and column 6, lines 52 – 64). Thus Curtis discloses all the limitations of Claims 1 and 2, and anticipates the claimed invention.

Regarding Claim 38, Curtis discloses a method of terminating an optical fiber, as claimed (Abstract; column 2, lines 3 – 11). Thus Curtis discloses all the limitations of Claim 38, and anticipates the claimed invention.

5. Claims 45 and 51 are rejected under 35 U.S.C. 102(b) as being anticipated by Blyler, Jr. et al. (U.S. Patent No. 5308555).

Regarding Claim 45, Blyler, Jr. et al. disclose a method of forming an assembly of optical components, comprising positioning a first component, such as an optical fiber, in a mold or a tool having a pattern; positioning a second component, such as an optical fiber, in a mold or a tool having a pattern; and applying a formable material into the mold or tool to form a waveguide between the first and second components, the waveguide forming an optical path between the first component and the second component, wherein the formable material is hardened and later removed (column 3, lines 13 – 31 and 39 – 62; column 5, lines 26 – 48). Thus Blyler, Jr. et al. disclose all the limitations of Claim 45, and anticipate the claimed invention.

Regarding Claim 51, Blyler, Jr. et al. disclose an optical fiber or optical assembly (column 3, lines 39 – 62). Thus Blyler, Jr. et al. disclose all the limitations of Claim 51, and anticipate the claimed invention.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4 – 13 and 56 – 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curtis as applied in Claim 1 above, in view of Daniel (U.S. Patent no. 4466697).

Regarding Claims 4 – 10, 12, 13, and 56 - 60, Curtis disclose all the limitations of Claim 1, but do not disclose the support structure to include molding a second, formable, sticky cladding material onto the first and second components and the waveguide to form the support structure, wherein the formable material includes fixing the first and second components in alignment, and provides protection or an enclosure to the structure, as well as providing an additional or third formable material. However, Daniel discloses molding conventional cladding and an additional second protective coating over an optical fiber (column 2, lines 31 – 43 and column 7, lines 28 – 38), which would inherently be “sticky” in order for the cladding material to adhere to the component. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to mold cladding onto the first and second components and the waveguide in order to protect the structure and facilitate alignment of the components, as well as permitting light to escape through the cladding layer at an angle which is greater than a specific critical angle (column 5, line 51 – column 6, line 15); and it would have been obvious to use a third formable material over the first and second components and the waveguide since it is well known and conventional to provide additional protection for an optical fiber structure (column 2, lines 34 – 37).

Regarding Claim 11, Curtis discloses inserting what is considered a substrate element or optical device into the mold (column 5, lines 52 – 68), while Daniel teaches using a cladding

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material on an optical fiber as discussed above. Again, it would have been obvious to mold cladding onto the first and second components and the waveguide in order to protect the structure and facilitate alignment of the components.

8. Claims 19 – 23 and 46 – 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blyler, Jr. et al. as applied in Claim 1 above, in view of Daniel.

Regarding Claims 19 – 21, 46 – 50, Blyler, Jr. et al. disclose a method of forming an optical waveguide assembly, comprising providing a tool having a pattern to be transferred to an optical waveguide; forming the optical waveguide aligned with the optical component by shaping a formable material using the tool, and hardening the formable material to produce a waveguide aligned with the component (column 3, lines 13 – 31 and 39 – 62; column 5, lines 26 – 48), but do not disclose the support structure to include providing a support structure to support the first and second components and the waveguide as they are removed, molding a second, formable, sticky cladding material onto the first and second components and the waveguide to form the support structure, wherein the formable material includes fixing the first and second components in alignment, and provides protection or an enclosure to the structure. However, Daniel discloses molding conventional cladding and an additional second protective coating over an optical fiber (column 2, lines 31 – 43 and column 7, lines 28 – 38), which would inherently be “sticky” in order for the cladding material to adhere to the component. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to mold cladding onto the first and second components and the waveguide in order to protect the structure and facilitate alignment of the components, as well as permitting light to escape through the cladding layer at an angle which is greater than a specific critical angle (column 5, line 51 – column 6, line 15).

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Regarding Claim 22, Blyler, Jr. et al. disclose a lid, which is considered to be a prefabricated molded support structure onto the optical waveguide (column 3, lines 29 – 31 and column 5, lines 42 – 45).

Regarding Claim 23, Blyler, Jr. et al. disclose the waveguide to be initially incompletely cured (column 3, lines 46 – 47).

9. Claims 52 – 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curtis as applied in Claim 1 above, in view of Lebby et al. (U.S. Patent No. 5389312).

Curtis discloses all the limitations of Claim 1, but does not specifically disclose using bumps associated with electrical contacts on the component as a precision location feature. However, Lebby et al. disclose using bumps as claimed (column 5, lines 27 – 45). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use bumps associated with electrical contacts that are considered to be capable of being provided for by the component manufacturer, in order to automatically align the components (column 5, lines 43 – 45).

Response to Arguments

10. Applicant's arguments with respect to claims 1 and 2 have been considered but are moot in view of the new ground(s) of rejection.

11. Regarding the arguments presented with respect to Claims 45 and 51, Examiner disagrees. As is clearly stated in Blyler, Jr. et al., the waveguide is removed from the mold (column 5, lines 36 – 41), and does not become a part of the final structure.

12. Applicant's arguments with respect to claim 38 have been considered but are moot in view of the new ground(s) of rejection.

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13. Regarding the arguments presented with respect to Claims 4 –13, Examiner disagrees. Daniel is considered to teach the nylon coating is used to protect and support the optical fiber, since the coating may be several layers thick (column 7, lines 28 – 38).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle A Lazor whose telephone number is 571-272-1232. The examiner can normally be reached on Thurs - Fri 5:45 - 4:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on 571-272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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1/26/05



CHRIS FIORILLA
SUPERVISORY PATENT EXAMINER

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